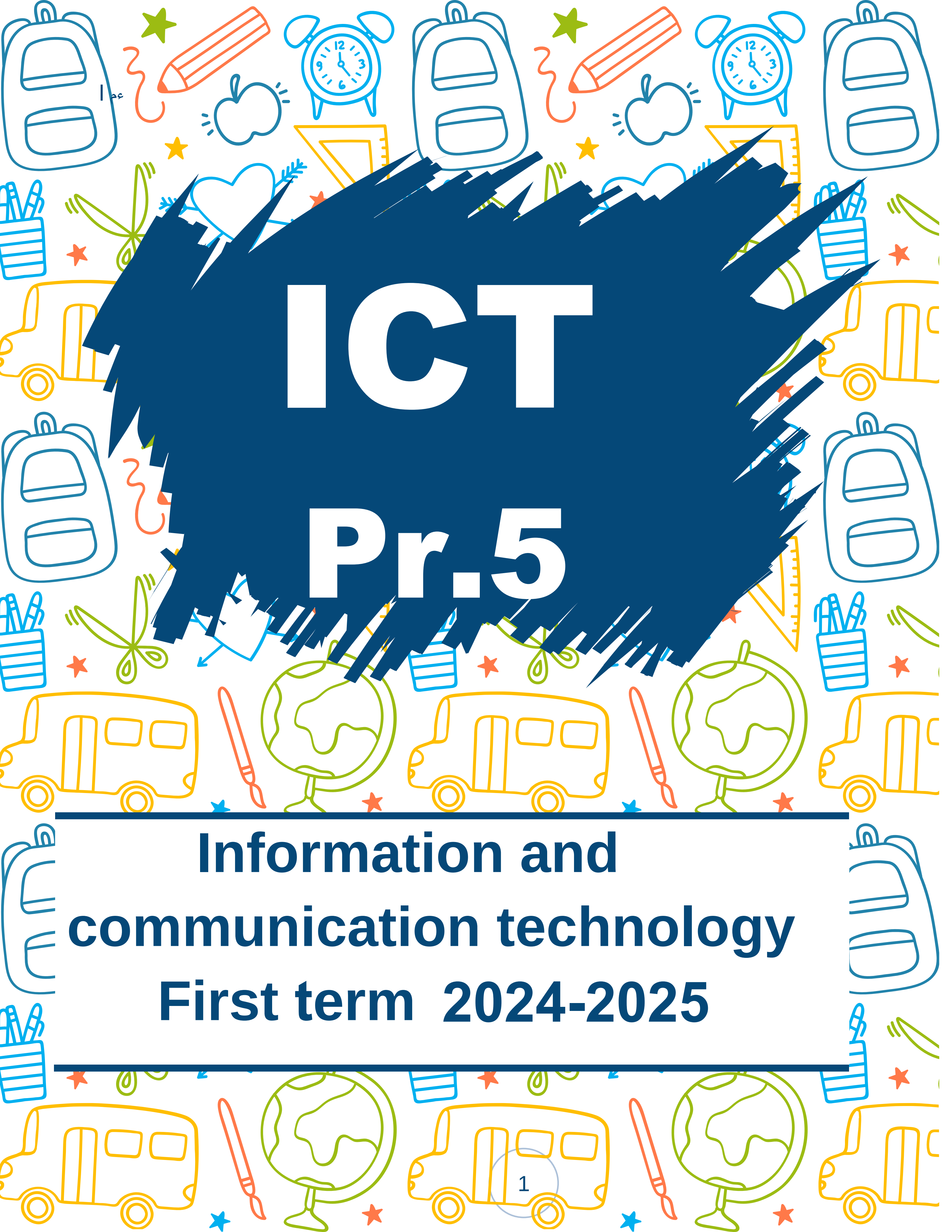
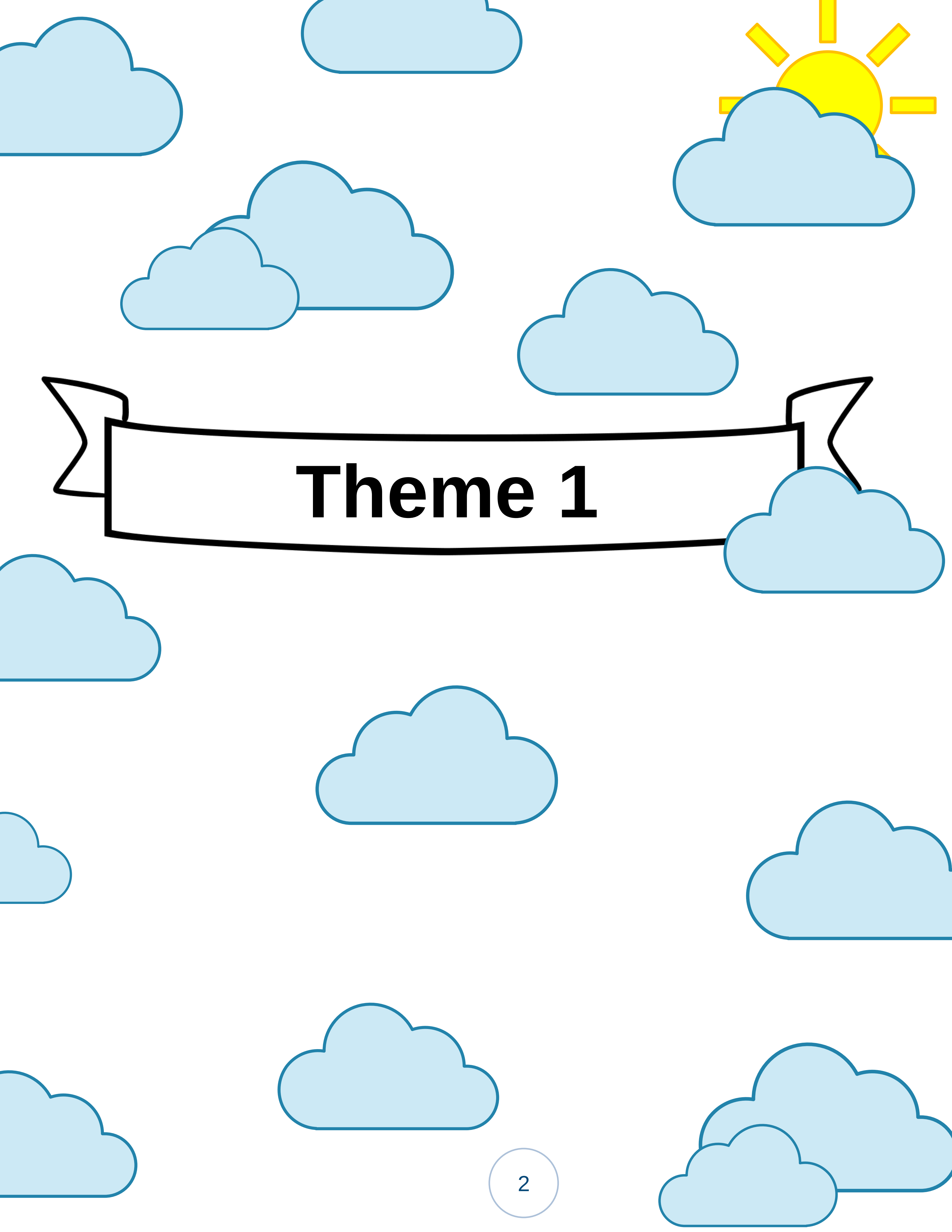


ICT

Pr.5

Information and communication technology

First term 2024-2025


Theme 1



Lesson 2: computer accessories

Flash memory:

it is used to store and transfer data and information from computer to another.

Hard disk drive:

it is used to store and transfer data and information.

External hard disk drive:

It like a hard disk but it work better and faster.

High definition multimedia interface (HBMI):

It is a cable that transmits audio and video to / from devices.

Router:

It is a device that connects a computer to the internet via the Wi-Fi or ethernet cable.

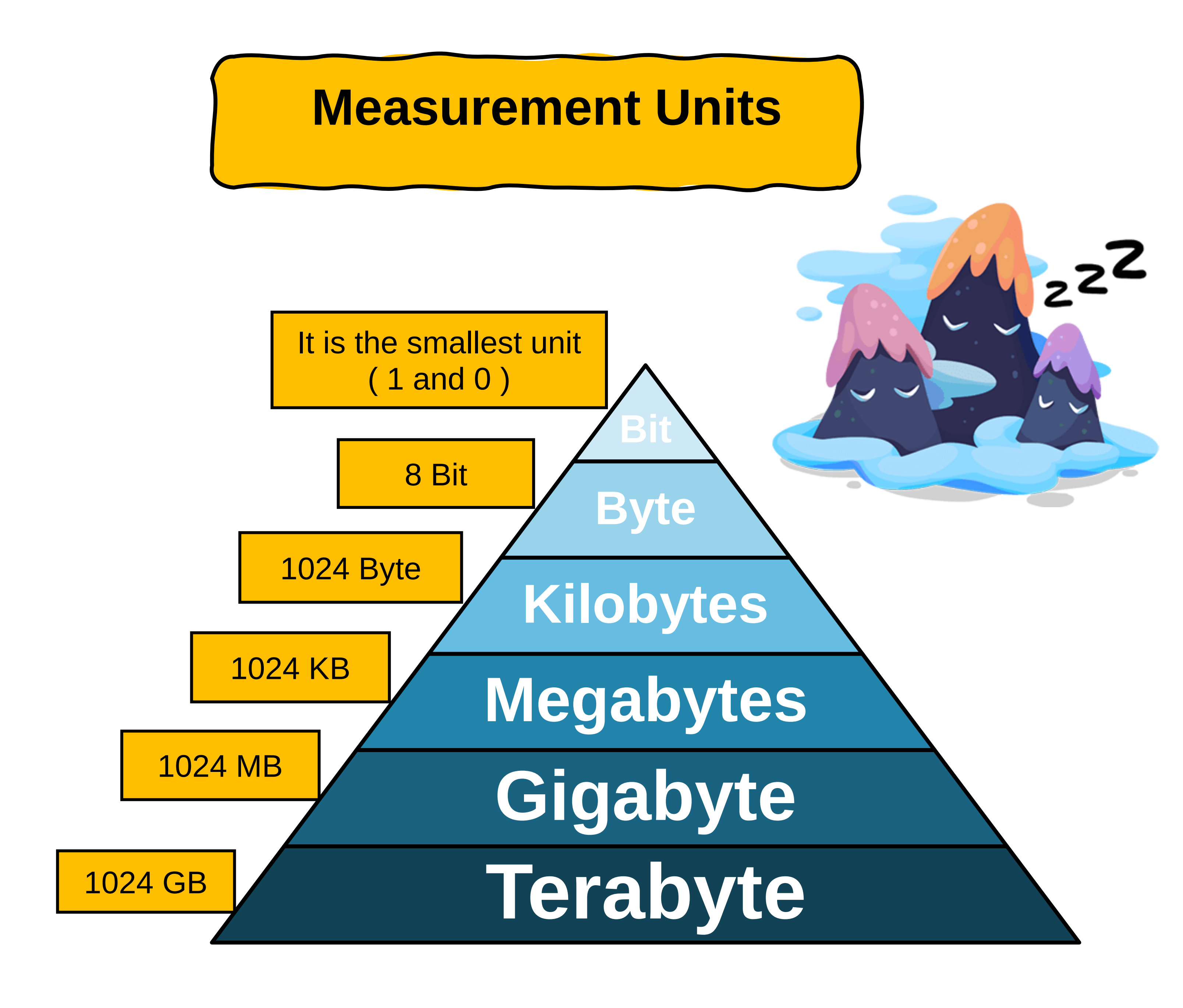
Ethernet cable:

It is a cable that connects the computer to the router.

Ethernet port:

Connects with ethernet wire, is more stable and faster than Wi-Fi.

Measurement Units



Megabit per second (Mbps):
Used to measure the speed of a network or internet connection, when speed became higher it will be better.

Gigahertz (GHz):
Measure the number of cycles your (processor) performs per second the higher the number of cycles, the faster the processor.

The problem	The reason	The solution
Cannot store files	Not enough space	Transfer files that do not need an external drive
Poor connection during video conference	Wi-Fi connection weak and slow	Try the ethernet cable
Home internet not working	disconnection	Use an ethernet cable or call your isp
Error while data processing or opening large files	Not enough ram memory to open the files	Close some programs you don't need

Exercises



Choose the correct answer:

1- …………. Is used to restore or transfer data between computers.

a) HDMI

b) CPU

c) Flash memory

2- ………… is the same as a hard disk drive, but it runs faster.

a) External hard disk

b) Flash memory

c) Router

3- A ………… is the smallest unit of data on your computer.

a) Mbps

b) Byte

c) Bit

4- A …………. Measures the speed of a network or internet connection.

a) GHz

b) Mbps

c) Byte

5- A …………. Measures the numper of cycles your CPU carries out per second .

a) GHz

b) Mbps

c) Byte

Put a (true) or(false)

1- HDMI is a wire that connects a computer with the router. (   )

2- Ethernet port is more stable and faster than Wi – Fi . (   )

3- The word " ICT " has 3 bits only . (   )

4- Mbps are used to measure network speed . (   )

5- Ethernet cable transmits audio and vedio to and from devices . (   )





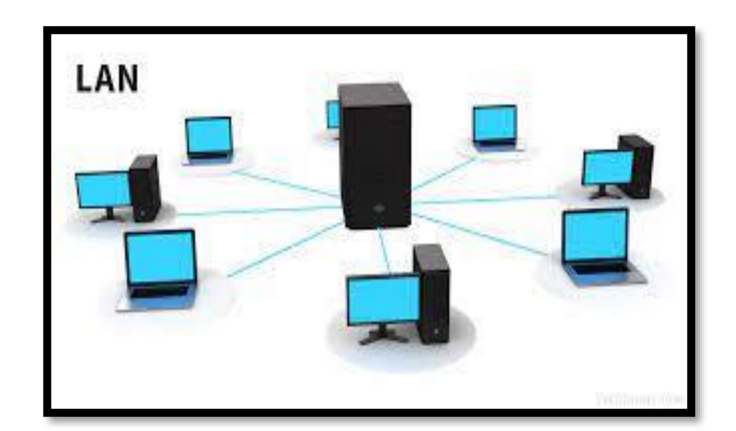
Lesson 3: Network

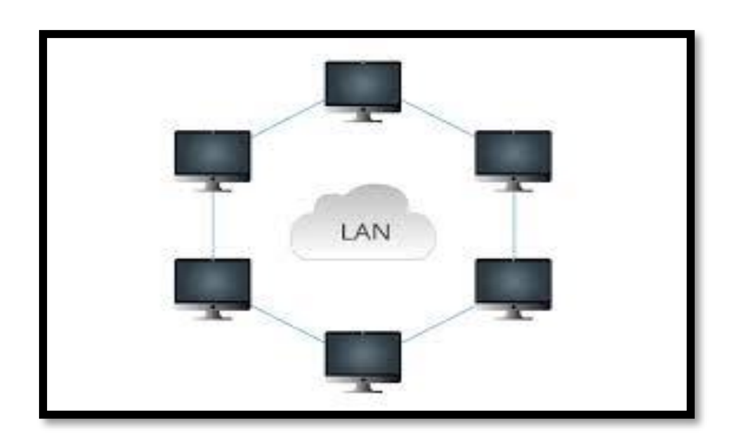
Computer network:

It is the connection of two or more computers together to transfer data and information **(LAN – WAN).**

LAN (Local Area Network) :

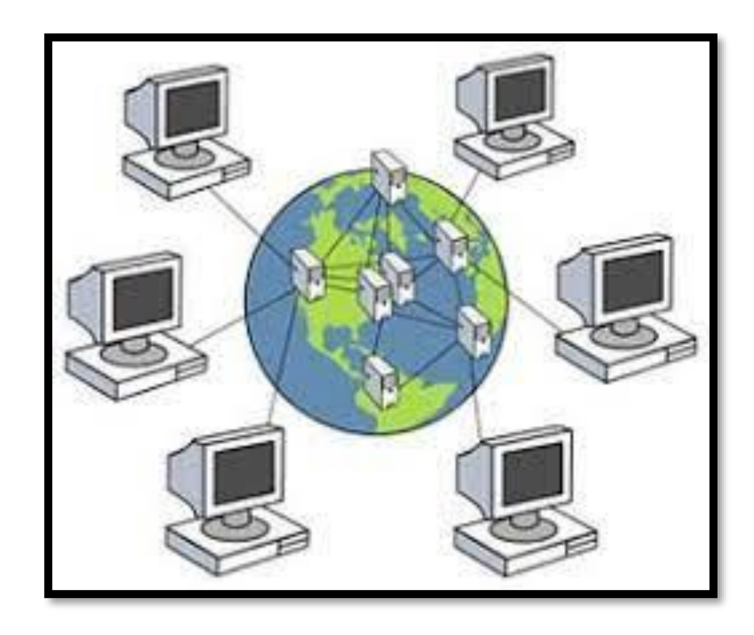
A group of computers connected to each other over a network, all located in the same location, such as a home, school, hospital, or business.

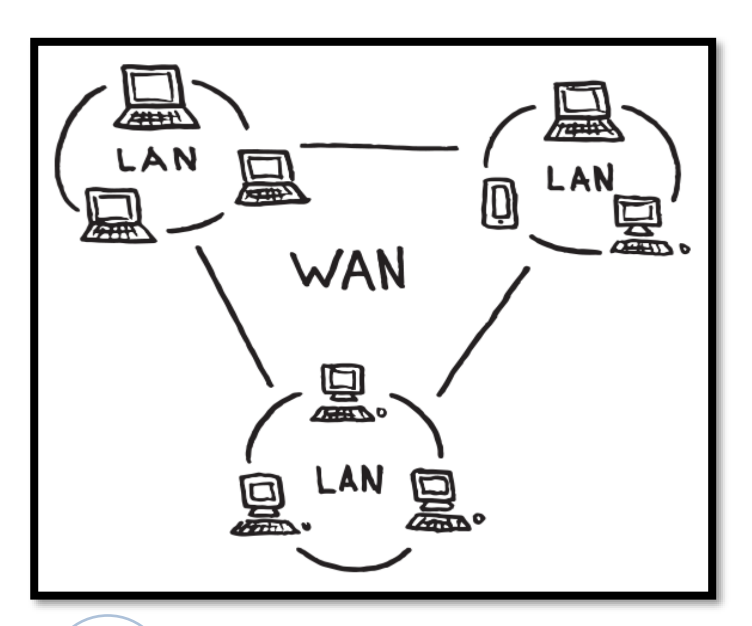




WAN (Wide Area Network) :

A group of local networks, separated by long distances, such as the Internet.





What do we need to connect a computer to the internet?

We need a gateway like **(Router)**
Where the router connects the computer with the **(Internet service provider) (ISP)**.

What is the ISP:

It is the internet service provided by Egyptian companies to citizens.

The world wide web (WWW) :

It is part of the Internet and consists of web pages and sites that can be navigated between them, such as the Egyptian Knowledge Bank website **(EKB)**.

Intranet:

It is a network of a group of people **(private)**, such as a business network in a company or a school.

A timeline of the technological development of the internet:

80 S:

The Internet connection was through the phone line and it was impossible to use the phone while you were using the Internet.

Late 80 S:

It is a high-speed connection that allows the phone and the Internet to be used simultaneously.

90 S:

The emergence of the World Wide Web.

+2000:

Wi-Fi has become the Internet on mobile phones, and the hotspot service has appeared that allows you to provide Internet service to other devices that you have.



Network

Open network	Closed network
An open network, accessible to all	Part of the network that is open but private to a specific part
EX: the internet	EX: school lab

Exercises

Choose the correct answer:

1- ………….. Consists of a computer connected to a printer or a router.

a) Internet

b) Intranet

c) LAN

2- Router is concidered a ………… .

a) Famous browser

b) Antivirus

c) Gateway for internet

3- ……….. Is a network that connects computer from all around the world .

a) Internet
b) Intranet
c) LAN

4- …………….. Is a device that connects your computer to an ISP .

a) Ethernet cable
b) Router
c) Ethernet port

5- A school’s computer lab is an example for ……………. .

a) Open network
b) Closed network
c) Internet

Put a (true) or(false)

1- LAN is a netwok that connect computers to each other to share data . (   )

2- WWW is a part of intranet .   (   )

3- Hotspot appeard after the year 2000 .   (   )

4- Hotspot allows you to access the internet anywhere from your phone.
(   )

5- The internet is a private network that is restricted to some people .   (   )



Lesson 4: digital communication tools

Internet of things:

They are devices connected to the Internet via Wi-Fi that can be controlled, whether in the same room or in another place
Such as: Bluetooth speakers, refrigerators or digital washing machine can be turned on and off by an application.

Bluetooth:

It is a network technology that connects wireless mobile devices over a short range of data transmission.

Internet and people of determination:

Computer networks give people of determination independence, whether at home or in public places, and help them save money and time and increase their self-confidence.

Screen Readers:

A technological way to help people of determination from the visually impaired in writing research and homework and accessing files and documents on the computer.

Braille:

It helps the visually impaired and blind to read.

E-Commerce:

Online buying and selling.
permission must be obtained before purchasing anything online.
You must be careful and secure when giving your private information to anyone, and this is called **(digital privacy).**

Exercises

1- Choose the correct answer:

2- Organizations use computer …………. networks to share private information.

a) Open

b) Closed

c) Public

3- The ………… consists of devices linked to internet via Wi – Fi .

a) CPU

b) IOT

c) DSL

4- Visually impaired people can use …….. for doing their homework .

a) Braille

b) Screen readers

c) Zoom

5- Braille method allows blind people to …………

a) Write

b) Read

c) Speak

6- You can use ……….. applications to buy anything on the internet.

a) Browser

b) Braille

c) E-commerce

Put a (true) or(false)

1- Humans and organizations communicate every day using computer networks. (   )

2- People of determination can’t communicate and follow their lesson online. (   )

3- We can upload videos using computer networks. (   )

4- It is difficult for household appliances to be part of a network. (   )

5- Digital washing machine is an example of the " internet of things ". (   )

Lesson 5: internet connection problems and solutions

1	Identify the problem	What is the problem Is it a problem with the computer or with the software? Did I make a mistake that led to this problem
2	Think of different ways and methods to solve the problem	Plan it
3	Study and try possible solutions to the problem	Try each of them until one works
4	Which solutions have worked?	
5	If you do not find a solution to the problem	You should ask help from your teacher or a member of your family

	problem	how to solve it
1	slow computer when open apps	Restart the device
		Check app updates
		Delete some unwanted apps
2	browser is running slow	Check signal Wi-Fi
		Make sure your apps are up to date
3	slow to download.	Restart the computer and the router
		Check internet speed
		There is no internet connection
		Make sure the router is connected
		Restart the router
		Change the ethernet wire
		Contact customer service to provide your ISP



Exercises

1- Choose the correct answer:

2- Mr. Hiebert uses …………. To make presentations about his discoveries.

a) Facebook

b) PowerPoint

c) E-mail

3- Mr. Hiebert uses …………. To share discoveries with his colleagues.

a) MS word

b) MS Excel

c) Video conference

4- The first step to solve any computer problems is ………… it.

a) Identifying

b) Planning

c) Leaving

5- When the browser is running slow, you have to ………... .

a) Delete unwanted apps

b) Check wi-fi signal

c) Restart your router

6- You can contact the customer service of your ISP for help when……… .

a) The internet connection is interrupted.

b) The browser is running slow

c) An app don’t open

Put a (true) or(false)

1- Mr. Hiebert uses e-mails to share his discoveries with his colleagues. (   )

2- Identifying the problem is the last step in solving computer problems. (   )

3- If the idea you have doesn’t solve a problem, it may contribute in solving another problem. (   )

4- Restarting the router is one of the ways to solve the slow download problem. (   )

5- The solution to the problem of your computer being slow when you open an application is to delete that application. (   )



Lesson 6: Digital files management

Libraries:

It contains many books, articles and manuscripts in many fields

interviews:

It is a face-to-face meeting with two people to exchange information and experiences and to discuss

TV:

It is a device through which a lot of information

QR code:

It is a symbol for outputting the information on the systems by pointing the device's camera at the symbol



What are the of electronic devices that are used to save and store information ?

Flash memory :

It is used to store and transfer data and information

Scanner :
Enter picture and graphics to the computer and save them inside

Digital camera :
To take picture, record audio and video to store them on a memory

How to organize and manage files on your device ?

1- We create a main folder

2- Add subfolders inside the main folder

3- Put an appropriate title for each folder

4- Put files, photos, and videos into the correct folder

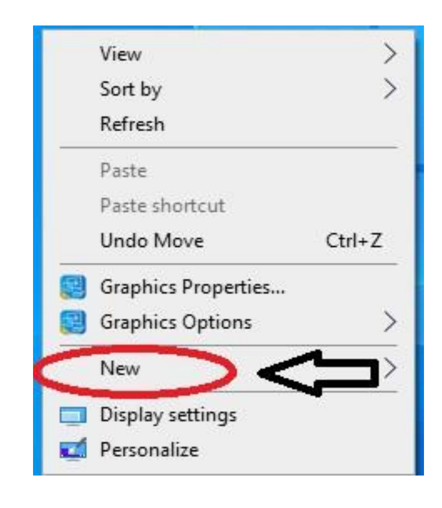


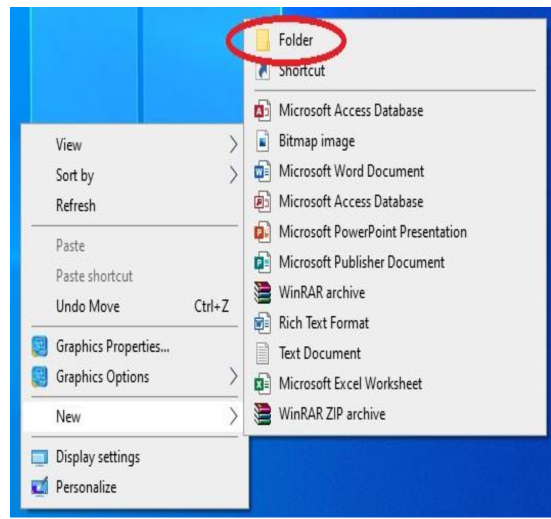
Create a main or subfolder (new folder) :

1- Right click will appear shortcut menu

2- Select **New** Another submenu appears

3- select **Folder**





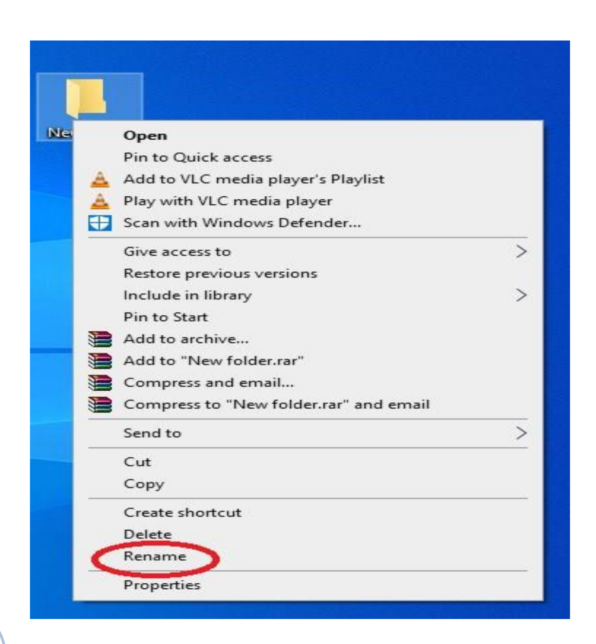
Put an appropriate title for each folder (or to name the folder).

1- Right-click on the folder

2- the shortcut menu appears

3- Select **Rename**

4- Type the name , press **Enter**



Exercises

Choose the correct answer:

1- To store and share information, we use the ………………… .

a) scanner

b) printer

c) flash memory

2- A ……………. is used to save images on a computer to use them later.

a) Scanner

b) Printer

c) Router

3- A …………… help us to access the information by scanning it with a phone camera .

a) Browser

b) QR code

c) Digital book

4- ………… folders helps us to manage files using the information technology.

a) Creating

b) Deleting

c) Copying

5- What is the first step that helps you to organize data in your computer ?

a) Add sub – folder.

b) Type a name for the folder.

c) Create the main folder.

Put a (true) or(false):

1- QR code is used to get information quickly and easily. (   )

2- We can use the digital camera to transfer and share files. (   )

3- A printer is used to save images on the computer to use them later. (   )

4- Technological tools help us to manage digital files. (   )

5- You can add a main folder inside sub-folders to manage files. (   )

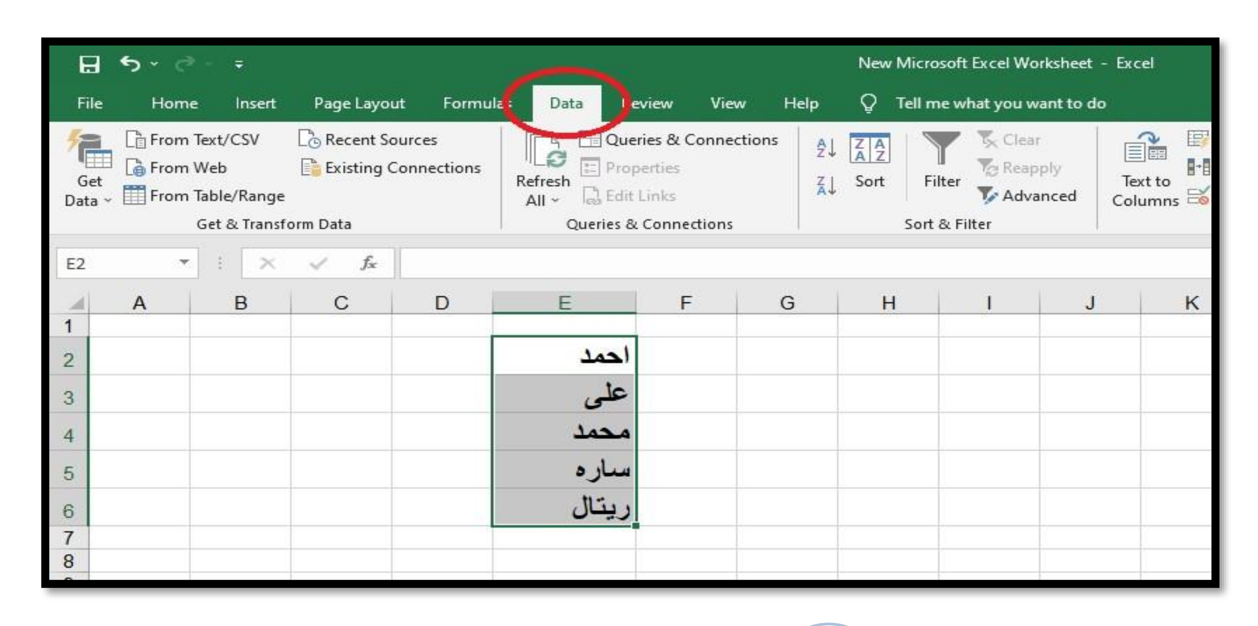


Lesson 8: Sharing information

the Internet	intranet
It is the sharing of information through open network for everyone	It is the sharing of information through closed network
But this information is at risk, so it is less secure	It more secure
Like advertisements - news - government decisions	Such as: personal data, your personal life, your ideas, your research, and your files

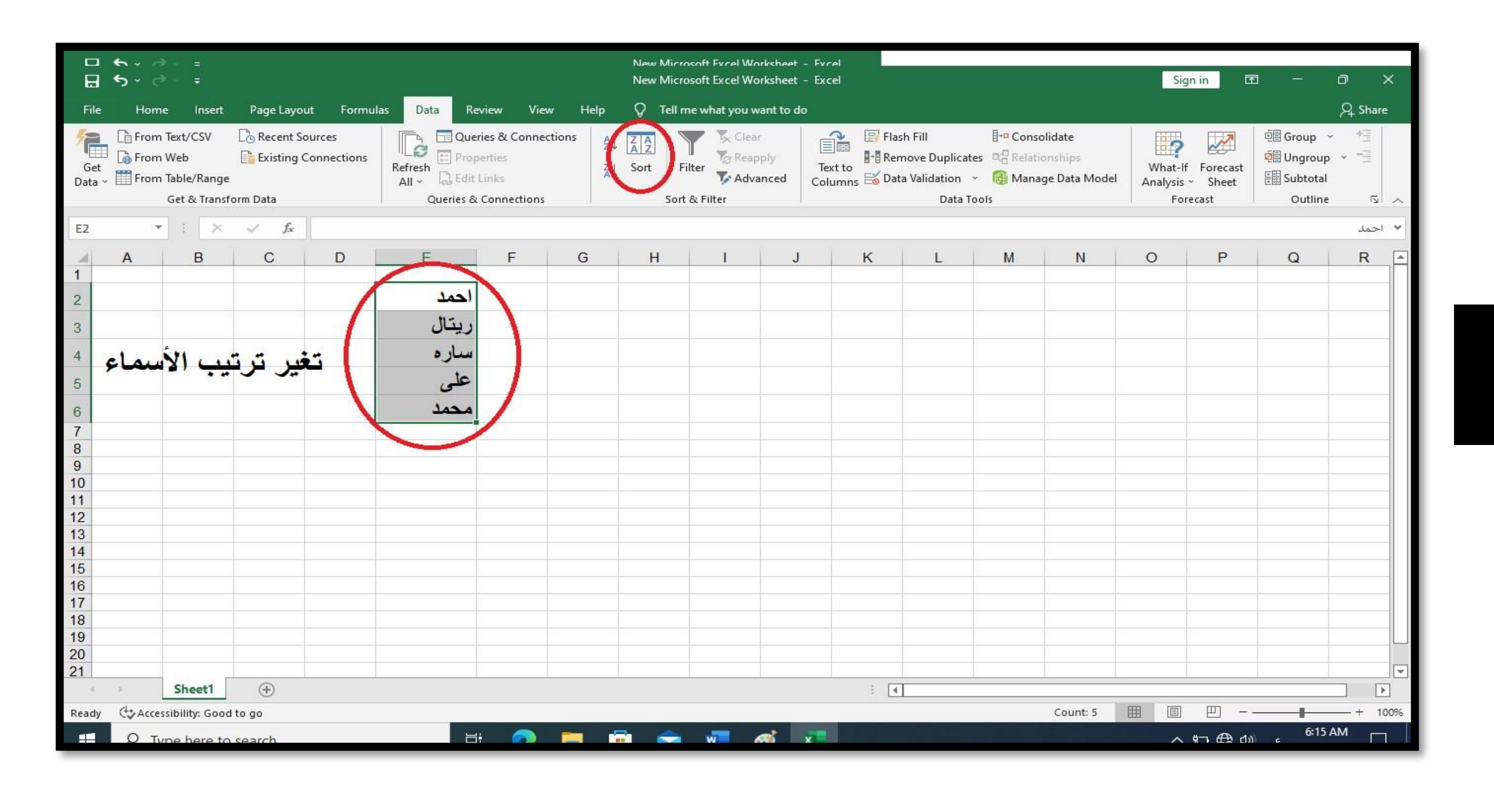
How to share information using Microsoft Excel : Sorting information alphabetically:

Go to Tool bar and press Tab Data



1

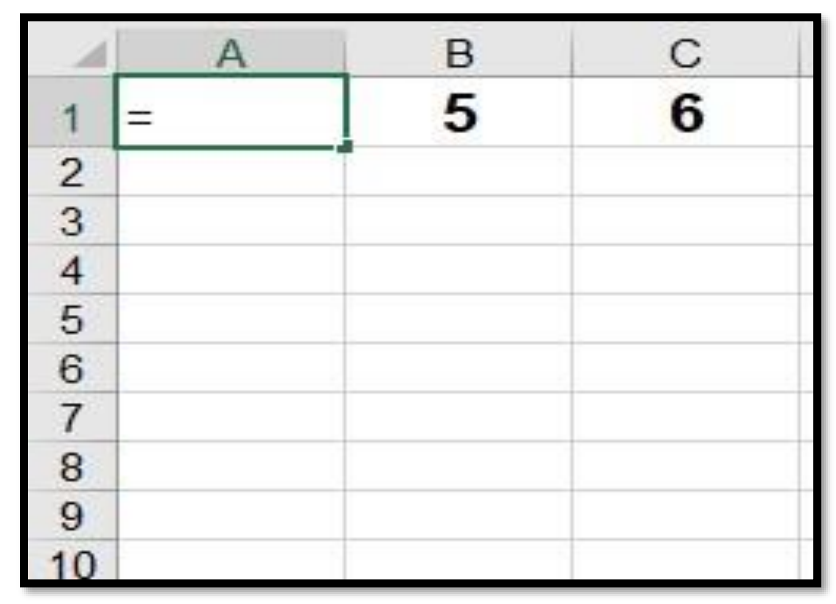
Then press Sort (to arrange the items alphabetically)



2

How to create simple formulas :

Click on the cell you want to create a simple formula in Then type the = sign



Then select the cells to be added in the simple formula And write between each cell (+, - , / , *) sign as you wish

	A	B	C
1	=B1+C1	5	6
2			
3			
4			
5			
6			
7			
8			
9			
10			

press Enter From the keyboard to show the result of the formula

	A	B	C
1	11	5	6
2			
3			
4			
5			
6			
7			

Exercises

Choose the correct answer:

1- The ………. is used to share the information in a closed and private network.

a) Letters

b) Internet

c) Intranet



2- The internet is ………… secure than the intranet.

a) Less

b) More

c) No correct answer

3- Typing ………. In cell, tell excel you are creating a formula.

a) +

b) –

c) =

4- We creating a formula, use the ………… sign for subtraction.

a) +

b) –

c) =

5- When creating a formula for division, use the ……………. Sign.

a) +

b) –

c) ÷

Put a (true) or(false):

1- You must decide to share information using an intranet or the internet. (   )

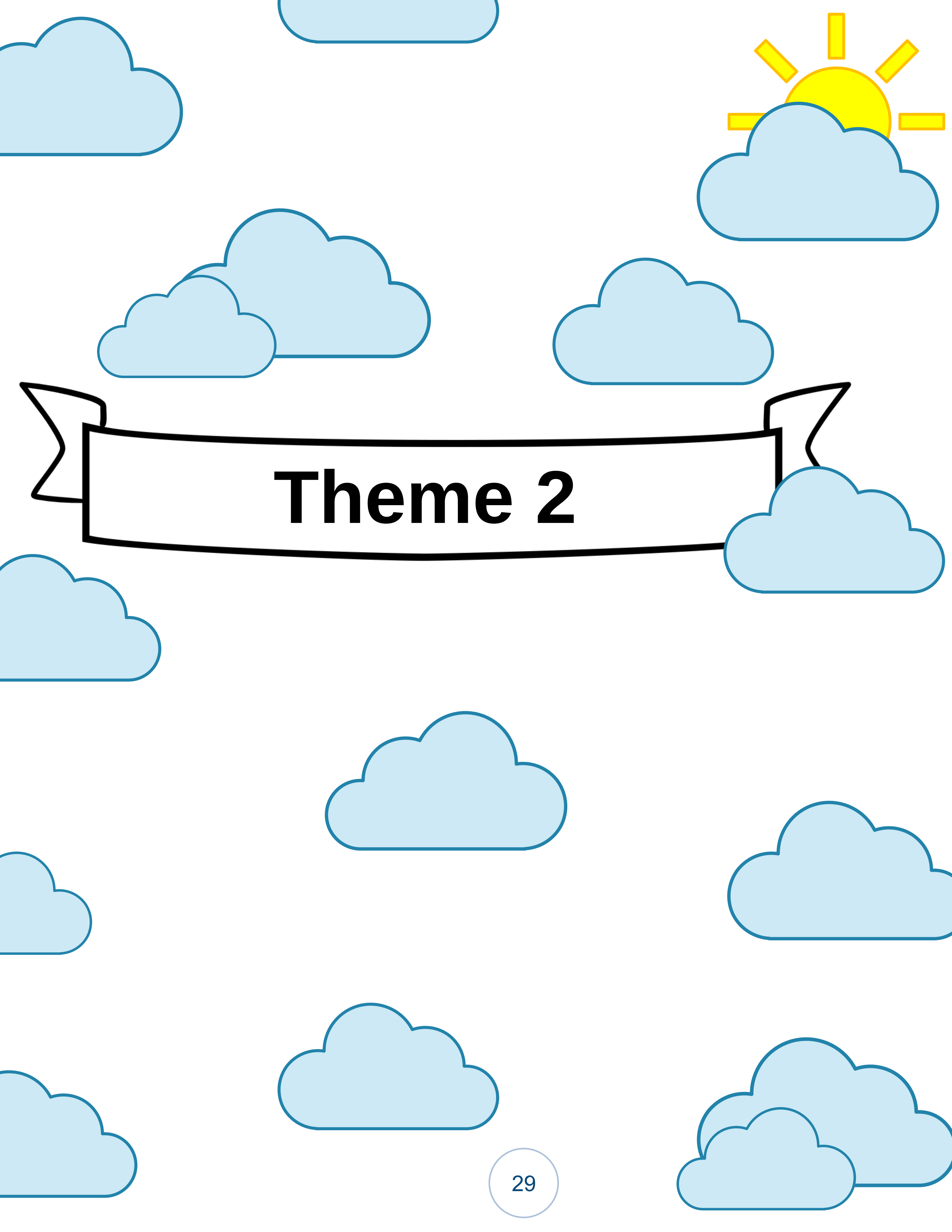
2- The internet is more secure and private than the intranet. (   )

3- The intranet is used to share information in an open network. (   )

4- The data in cells can't be arranged alphabetically. (   )

5- You can add or subtract any data using MS. Excel. (   )





Theme 2

Lesson 2 : Protecting Ourselves and Our Information

Personal information:

Which is your data or personally identifiable information **(PII)** Such as :
(Name - Address - Passwords - Date of Birth)

What are the risks that we may be exposed to from computer hackers?

Stealing your personal information

Stealing your bank account number to steal your money

Steal your email and password to send a virus to all your friends

How we keep your personal information:

1- Do not share personal information on the Internet

2- Use strong passwords that contain different numbers, letters, and special signs for each site

3- Do not sign for a website or application asks you for your personal

4- data Use antivirus software to protect your device

5- Update your devices regularly .



Files may be exposed to problems that cause them to be lost, such as:

1- Virus infection

2- Computer fall or crash

3- Software related problems

To protect files stored on your computer from loss:

Creating a backup copy of the files
 by: An application that creates backup copies of files or the safest way is to transfer files to another device .
(External hard disk drive - flash memory - network)





Choose the correct answer :

1- ……… use the internet to break into your computer to steal your information.

a) Programmers

b) Hackers

c) Thieves

2- ………… information includes your name, address, and passwords.

a) Internet

b) Public

c) Personal

3- Password must be ………… for each website you register on.

a) Different

b) Weak

c) Similar

4- ……………… is considered a strong password.

a) Ahmed123

b) abcd895

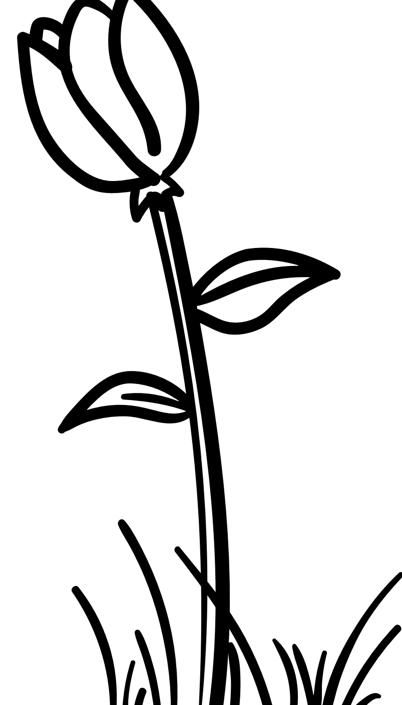
c) Ac#258#h

5- ………… your device regularly your data safe.

a) Uploading

b) Updating

c) Restarting



Put a (true) or(false):

1- Anti-virus helps you to keep your data safe. (   )

2- Some software programs backup data automatically. (   )

3- Hackers can steal your personal data without using the internet. (   )

4- Websites that ask for too much personal information are safe. (   )

5- Hybrid backup is a safer way to backup and store files. (   )



Lesson 3 : password security

Phishing

- Is sending a message via e-mail or social media applications That look a real but isn't . To steal your data and personal information.

Ex :

- A message asking you for your data, personal information, or bank account details
- A message says that you have won a prize and asking you for your bank account details to be sent to you.

How can we identify phishing?

It contains spelling and grammar errors Request for too many personal date .

Smishing:

is the same thing but is a text message instead of an e-mail.

Password management software:

- A program for managing passwords that helps us in Create strong, different passwords for each of your accounts.
- Tell you if the passwords you already have are too weak, used before, or stolen through the Internet

Multi-factor authentication(MFA) :

It is used to strengthen your passwords.

To prevent hackers from accessing your account and data in two ways:

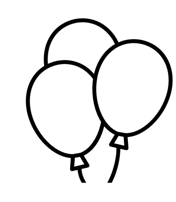
- Your password or (personal identification number) PIN
- Email or code of numbers

Example:

If you enter your account through a device other than your main device, you will receive a message on your mobile phone to make sure that you are the owner of the account and you are trying to enter your account through a code for several numbers.



Exercises



Choose the correct answer :

1- Phishing message can be identified by containing ………….

a) Trusted information

b) Spelling errors

c) Accurate information

2- Smishing is the same thing as phishing, but it is sent by …………

a) E-mail

b) Text message

c) Social media sites

3- Password can be strengthened by ………………

a) Multi-factor authentication

b) Anti-virus software

c) Web browser

4- ………….. is sending a fake message via e-mail.

a) Smishing

b) Fishing

c) Virus

5- …………. Helps you to create strong passwords for your accounts.

a) Password managers

b) Phishing

c) smishing

Put a (true) or(false):

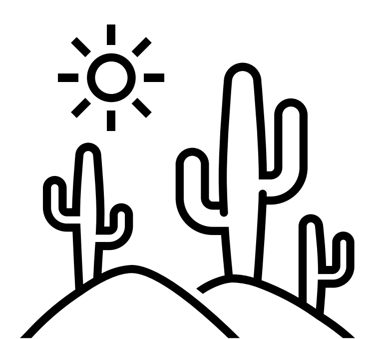
1- Phishing is a way that hackers use to get your password. (   )

2- Phishing is a text message that look real put isn't. (   )

3- Passwords can be strengthened by Web browser. (   )

4- Virus provides at least two ways of identifying yourself. (   )

5- Password managers Helps you to create strong passwords for your account. (   )



Lesson 4 : How to deal with fake websites

Scam Websites:

- They are fake websites to steal your personal or financial data and try to hacking your device Such as :
(Username - password - bank account details - credit card detail)

fake online shopping sites :

That never sends you the correct items you bought.

Scareware Websites:

that says you has a problem, and you need to download something.

Sweepstakes (Prize and reward)

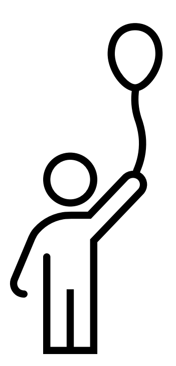
That offers you a prize that never comes.

scam sites:

That offers you a prize that never comes.

What do you do in case you fall victim to these scam websites?

- Tell your father or a family member
- Contact the General Department for Combating Internet Crimes or the Child Helpline
- Report to the online store and the service provider you deal with



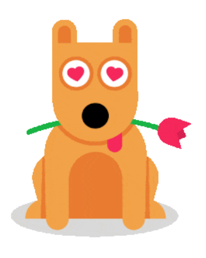
Dissecting the URL:

all URL are made up of three main parts :
(The protocol – the resource name – the file path)



A URL start with the protocol	The middle of the URL	The last of the URL
The determine how the information will be transferred.	Is the web server, or site being requested and shows who owns that space.	This identifies the specific resource the link is giving you access to.





Exercises

Choose the correct answer :

1- …………. Sites contain fake situations in an attempt to steal your data.

a) Trusted

b) Scam

c) Reliable

2- ……………….. Offer you a prize that you never get.

a) Online shopping sites

b) Scareware websites

c) Sweepstakes

3- ………… contain fake warnings that you need to download a program.

a) Online shopping sites

b) Scareware websites

c) Sweepstakes

4- URL begins with the …………………

a) Recourse name

b) Protocol

c) File path

5- The ………… indicates who owns the site.

a) Recourse name

b) Protocol

c) File path

Put a (true) or(false):

1- You don’t have to be careful when visiting new websites. (   )

2- Scareware websites offer you a prize that you never get. (   )

3- Sweepstakes never sends you the correct items you bought. (   )

4- A reliable source will have misspelled words or bad grammars. (   )

5- The last part of the URL is the file path. (   )



Lesson 5 : Intellectual Property Rights

Digital (Online) content:

It is information on the Internet and it may be e-books - publications - images - video - audio - games - programs

Copyrights:

It is a legal right that gives the creators the right to print and publish it, and others have no right to use it without his permission This is to protect the works of creators and authors

To find out if digital content is protected by copyright through:

- Letter C inside a circle
- The phrase “uses copyrighted content.”

What should be considered when conducting your research (for copyright protection)?

Ask for permission before using any content and give credit to its owner If the

content written :

- You may use only a small part of a person’s writing, such as some sentences or words
- Reframe ideas in your own style

If the content pictures:

The title of the photo, the name of the photographer or artist, a link to the original image



What is NOT covered by Copyright?

1- Works in the public domain
2- Discoveries and Facts
3- Creative works whose owner has been dead for 50 years .
4- Works that give their owner permission to reuse them at any time and any place.
5- (Creative Commons) and everyone can use it.

Exercises

Choose the correct answer :

1- the international symbol for copyright is letter ………. with a circle around it.

a) R

b) S

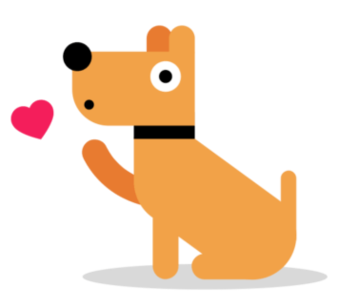
c) C

2- Copyright protects all the following things, except ……………… .

a) Books

b) Websites

c) Discoveries



3- Creative works that are not covered by copyright are…………… .

a) Website

b) Public domain

c) Copyrights

4- …………. Means that the creator has given permission for their work to be Used anytime and anywhere.

a) Public domain

b) Creative commons reuse license.

c) Discoveries and facts.

5- Creative works enter the public domain …………. .

a) When you download it

b) When the creator dies

c) After 50 years of the creator's death

Put a (true) or(false):

1- The images and facts are not covered by copyright law. (   )

2- The international symbol for public domain is ©. (   )

3- Copyright law protects both printed and digital content. (   )

4- Copyrights don't protect the photographers of a photographer. (   )

5- Copyright for website is usually at the top of the home page. (   )

Lesson 6: Using digital sources

How to solve a problem?

Use reliable sources such as the Egyptian Knowledge Bank website or sites suggested by your teacher and school.

Use multiple sources to verify the information you have obtained.

opinions	the facts
It is based on someone's views and experiences	come from research and observation
can't be proven	can be proven
Can be debated	Can't be debated
They are not true for everyone	true for everyone

(URL):

- It is an abbreviation of the word Uniform Resource Locator It is used to enter the site by typing it in the search engine or the address bar.
- And to store URLs through the Bookmark bar

There are many sources of information that help us in our research:

- Books, articles, notes, and letters
- Pictures and videos (visual information)
- Maps, graphs, and infographics
- Archives, records, and databases

Exercises

Choose the correct answer :

1- You can store suggested websites in the ……………. Bar in your browser.

a) Tools

b) Bookmark

c) Task

2- You can also go to the site you want by typing the ……… in the search engine.

a) E-mail

b) URL

c) Text message

3- ………… result from research and observation, they can be proven.

a) Opinions

b) Facts

c) Lies

4- ………… are based on someone's views and experiences.

a) Opinions

b) Facts

c) Lies

5- Using multiple sources during your research is a/an ………….. decision.

a) Right

b) Wrong

c) Unhelpful

Put a (true) or(false):

1- Photos and videos are from reliable sources. (   )

2- EKB is a reliable digital source. (   )

3- Videos help us gain information through watching. (   )

4- Following copyright rules and laws is also a good decision. (   )

5- You can type the URL in the search engine. (   )



Lesson 8: Documenting information appropriately

When creating your research, you must:

- Take notes in your own style
- credit the sources you used in your research
- Add author's name and the **URL**
- Re-read your notes. and if you find missing information, return to the source and look for it
- Use quotation marks **" "** when the author's words are important

To search for information on the Internet by keywords:

- press my key **CTRL + F**
- Type the term in the search box
- The keyword you want to search for will be
- The keyword will be highlighted everywhere it appears on the page .

Paraphrasing :

- Use your own words to explain the idea of the author (writer)
- Arranging ideas, sentences structure, and changing some vocabulary words

the quote :

Repeat the words that someone (author or writer) else has said or written

From the ethics of quoting:

credit the source from which the quote is taken and reason for using it
Use some terms and phrases such as:

This shows that	In this article Article title
This proves that	According to Author Name
This illustrates	Author Name .... States ….

This is what is called (sentence prefixes).**Sentence Starters**

Citing sources:

- At the end of a research report , you List all the sources from which your information was taken.
- If you want to credit the source of your information and it is a website, you can type

Website link:

A highlighted picture or word, when pressed, take you to another site and is known as (Hyperlink)

Exercises

Choose the correct answer :

1- If some information is missing in your research, you can return to the ……

a) Summary

b) Source

c) Presentation

2- You can use ……. To write the author's important sayings.

a) Bold font

b) Under line

c) Quotation marks

3- You should include your ………. in the end of your research.

a) Content

b) Citation

c) Sources

4- To search for an online resource keywords, press ………..

a) Alt + Ctrl + Del

b) Ctrl + F

c) F5

5- Some online sources include a ……. to use it as the websites may change.

a) Special characters

b) Special link

c) Permalink

Put a (true) or(false):

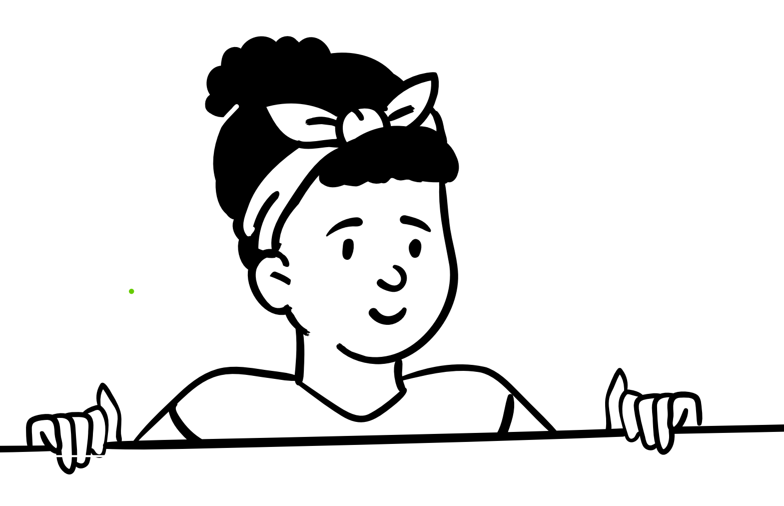
1- Use quotation marks to add the important author's words. (   )

2- You must show respect for the author by paraphrasing the text. (   )

3- If there is no author, write the source, the data, and the URL. (   )

4- You must add the URL and the author's name at the end of your notes. (   )

5- "   " is used to search for keywords. (   )


Final
Revision


Exercises

Choose the correct answer :

1- ....provides at least two ways of identifying yourself.

a) Anti-virus
b) Software
c) Password manager

2- Time difference between countries is a great problem during ....

a) multi-factor authentication
b) Face to face meeting
c) Virtual meeting

3- The copyright for a website is usually at the........... of the home page

a) bottom
b) top
c) middle

4- A photographer protects his work by not sharing images with.............

a) blow resolution
b) high resolution
c) low resolution

5- Use .... to search for sub-topics and speed up the search process transcription.

a) Processes

b) Keywords

c) Results

6- The router is considered as ....

a) Famous browser

b) Antivirus

c) Gateway for internet

7- Us....................s in search engine to make your search more accurate.

a) Same

b) Different

c) Synonyms

8- ..... is a device that connects a computer to the internet via Wi-Fi.

a) Ethernet cable

b) Ethernet port

9- To protect your photos, they are shared.......

a) low resolution

b) Router

c) flash memory

10- You can move around and reach different places using ....

a) GPS

b) high resolution

c) Pictures

11- fred hiebert is an ……………. And explorer in national geographic .

a) Artist

b) Architect

c) Archaeologist

12 - Visually impaired people can use …….. for doing their homework .

a) Braille

b) Screen readers

c) Zoom

13 - Braille method allows blind people to …………

a) Write

b) Read

c) Speak

14- You can store suggested websites in the ……………. Bar in your browser.

a) Tools

b) Bookmark

c) Task

15- The ………… consists of devices linked to internet via Wi – Fi .

a) CPU

b) IOT

c) DSL

Put a (true) or(false):

1- Mentoring is a great way to pass on information and skills . ( )

2- Ethernet port is more stable and faster than Wi – Fi . ( )

3- The internet is a private network that is restricted to some people . ( )

4- We can upload videos using computer networks. ( )

5- Identifying the problem is the last step in solving computer problems. ( )

6- Technological tools help us to manage digital files. ( )

7- You can add a main folder inside sub-folders to manage files. ( )

8- The data in cells can't be arranged alphabetically. ( )

9- You can add or subtract any data using MS. Excel. ( )

10- Websites that ask for too much personal information are safe. ( )

11- Hybrid backup is a safer way to backup and store files. ( )

12- Videos help us gain information through watching. ( )

13- Following copyright rules and laws is also a good decision. ( )

14- You can type the URL in the search engine. ( )

15- Use quotation marks to add the important author's words. ( )